Amendments to the Claims

1. (currently amended) An electrical wiring ~~protection~~ device ~~including line terminals coupled to a power source disposed in an electric power distribution system, the protection device being configured to protect a portion of the power distribution system from at least one fault condition, the device~~ comprising:

a plurality of line terminals and a plurality of load terminals;

a fault protection circuit assembly coupled to the plurality of line terminals, the fault protection circuit assembly being configured to detect at least one fault condition and couple the plurality of line terminals from the plurality of load terminals in response to detecting at least one fault condition;

a receptacle member including a housing and a cover, the cover assembly including receptacle openings configured to accommodate plug contact blades;

receptacle contacts disposed in the housing and coupled to the line terminals to thereby establish an electrical connection between the receptacle contacts and the line terminals, each receptacle contact being in communication with a corresponding receptacle opening; [[and]]

a protective shutter mechanism integrated into the housing, the protective shutter mechanism being movable from a closed position to an open position upon insertion of the plug contact blades, the protective shutter mechanism being substantially sealed in the closed position and not movable from the closed position to the open position upon insertion of an object into one receptacle opening, whereby the object is prevented from making contact with the corresponding receptacle contact[[.]]; and

a mis-wiring sensor coupled to the plurality of line terminals and/or the plurality of load terminals, the mis-wiring sensor being configured to prevent the protective shutter mechanism from moving from the closed position to the open position upon insertion of the plug contact blades if a proper wiring condition is not sensed.

2. canceled.

3. canceled.

4. (currently amended) The device of claim 1[[2]], wherein the mis-wiring sensor is configured to allow the protective shutter mechanism to move from the closed position to the open position upon insertion of the plug contact blades if the proper wiring condition is sensed.

5. (original) The device of claim 1, wherein the protective shutter mechanism comprises:

a frame member disposed in the housing, the frame member including a first aperture aligned with one receptacle opening, and a second aperture aligned with another receptacle opening; and

a slide assembly coupled to the frame member, the slide assembly including a first slide assembly and a second slide assembly, the first slide assembly and the second slide assembly being disposed spaced apart from each other in the closed position, and configured to simultaneously slide together when the protective shutter mechanism is moved from the closed position into the open position.

6. (original) The device of claim 5, wherein the first slide assembly includes a first shutter blade configured to seal the first aperture in the closed position, and the second slide assembly includes a second shutter blade member configured to seal the second aperture in the closed position.

7. (original) The device of claim 6, wherein the insertion of the plug contact blades simultaneously moves the first shutter blade member and the second shutter blade member toward one another such that each receptacle opening is in communication with a corresponding receptacle contact.

8. (original) The device of claim 6, wherein the insertion of the object against either the first shutter blade member or the second shutter blade member, but not both, does not cause the first shutter blade member and the second shutter blade member to simultaneously slide.

9. (original) The device of claim 6, further comprising a first spring element coupling the first shutter blade member to the frame member.

10. (original) The device of claim 9, wherein the first spring element is in tension in the closed position.

11. (original) The device of claim 9, wherein the first spring element is in compression in the open position.

12. (original) The device of claim 6, wherein the first slide assembly includes a second blocking member coupled to the first shutter blade member and positioned to block the second aperture.

13. (original) The device of claim 12, further comprising a spring element, the first shutter blade including a first pin configured to accommodate a first end of the spring element.

14. (original) The device of claim 6, wherein the second slide assembly includes a first blocking member coupled to the second shutter blade member and positioned to block the first aperture.

15. (original) The device of claim 14, further comprising a second spring element, the second shutter blade member including a second pin configured to accommodate the second spring element.

16. (original) The device according to claim 5, further comprising a mis-wiring sensor disposed on a circuit board within the housing and coupled to the protective shutter mechanism, the mis-wiring sensor indicating whether the protective device is in a properly wired state or a mis-wired state, the protective shutter mechanism being in a locked position

in either a non-wired state or the mis-wired state, the protective shutter mechanism being not movable from a closed position to an open position upon insertion of the plug contact blades in the locked position.

17. (original) The device according to claim 16, further comprising:

a pivot arm removably coupled to the frame member in the locked position; and

a cam member coupled to the pivot arm, the cam member being configured to rotate around an axis of rotation to thereby move the pivot arm in a linear direction to disengage the protective shutter mechanism from the pivot arm such that the protective shutter mechanism is moved to an unlocked position, whereby the protective shutter mechanism is movable from a closed position to an open position upon insertion of the plug contact blades.

18. (original) The device according to claim 17, further comprising:

a rotor coupled to the cam member at a first end; and

a torsion spring assembly coupled to the rotor at a second end and the miswiring sensor, the torsion spring assembly being configured to release stored mechanical energy when the mis-wiring sensor senses the proper wiring condition, such that the rotor causes the cam member to rotate about the axis of rotation to thereby unlock the protective shutter mechanism.

19. (original) The device according to claim 5, wherein the protective shutter mechanism comprises a third slide assembly configured to correspond to a receptacle opening for a plug ground contact blade, the third slide assembly being movable from a closed position to an open position irrespective of the positions of the first slide assembly and second slide assembly, upon the insertion of the plug ground contact blade.

20. (original) The device according to claim 1, further comprising:

a fault detection circuit disposed on a circuit board, the fault detection circuit being configured to detect the at least one fault condition and provide a fault detect signal in response thereto; and

interrupting contacts coupled to the fault detection circuit and disposed between the line terminals and the at least one receptacle, the interrupting contacts being configured to disconnect the power source from the at least one receptacle in response to receiving the fault detect signal.

21. (original) The device according to claim 20, wherein the at least one fault condition is a ground fault whose detection by the fault detection circuit causes the interrupting contacts to disconnect the power source from the at least one receptacle in response to receiving the fault detection signal.

22. (original) The device according to claim 20 wherein the at least one fault condition is an arc fault whose detection by the fault detection circuit causes the interrupting contacts to disconnect the power source from the at least one receptacle in response to receiving the fault detection signal.

23. (original) The device according to claim 1, further comprising a protective membrane integrated into the housing having at least one sealable hole portion, the protective membrane being substantially hermetically sealed when the sealable hole portion is in the closed position.

24. (original) The device according to claim 23, wherein the receptacle openings include openings configured to accommodate a plug ground contact blade, the protective membrane being substantially hermetically sealed when the plug ground contact blade is not inserted.

25. (original) The device according to claim 23, further comprising at least one manually operable button including an arm that passes through a sealable hole portion in the protective membrane, the sealable hole portion and the arm being substantially hermetically sealed.

26. (original) A protection device including line terminals configured to be coupled to a power source disposed in an electric power distribution system when a proper wiring condition is effected, the protection device being configured to protect a portion of the power distribution system from at least one fault condition, the device comprising:

a receptacle member including a housing and a cover, the cover assembly including receptacle openings configured to accommodate plug contact blades;

receptacle contacts disposed in the housing and coupled to the line terminals to thereby establish an electrical connection between the receptacle contacts and the line terminals, each receptacle contact being in communication with a corresponding receptacle opening; and

a protective shutter mechanism integrated into the housing, the protective shutter mechanism being movable from a closed position to an open position upon insertion of the plug contact blades when in an unlocked state, the protective shutter mechanism being substantially sealed in the closed position and not movable from the closed position to th~ open position upon insertion of an object into one receptacle opening, whereby the object is prevented from making contact with the corresponding receptacle contact; and

a mis-wiring sensor coupled to the line terminals and the protective shutter mechanism, the mis-wiring sensor being configured to sense the proper wiring condition and actuate the protective shutter mechanism from a locked state to the unlocked state in response to detecting the proper wiring condition.

27. (original) The device according to Claim 26, further comprising feed-thru terminals configured to provide an electrical connection to a downstream receptacle, the at least one protective shutter being in the closed position when the power source is connected to the feed-thru terminals instead of the line terminals.

28. (original) The device according to Claim 26, further comprising:

a fault detector coupled to the line terminals, the fault detector being configured to detect the at least one fault condition; and

interrupting contacts disposed between the line terminals and the at least one receptacle, the interrupting contacts being configured to disconnect the power source from the at least one receptacle upon detection of the at least one fault condition.

29. (original) The device according to Claim 28, wherein the at least one fault condition includes a ground fault condition.

30. (original) The device according to Claim 28, wherein the at least one fault condition includes an arc fault condition.

31. (original) The device according to Claim 28, further comprising feed-thru terminals configured to provide an electrical connection to a downstream receptacle, the interrupting contacts being disposed between the line terminals and the feed-thru terminals and configured to disconnect the source of power from the feed-thru terminals upon detection of the at least one fault condition.

32. (original) The device according to claim 26, wherein the mis-wiring sensor includes at least one resistor.

33. (original) The device according to claim 26, further comprising:

a fault detection circuit configured to detect the at least one fault condition and provide a fault detect signal in response thereto;

interrupting contacts coupled to the fault detection circuit and disposed between the line terminals and the at least one receptacle, the interrupting contacts being configured to disconnect the power source from the at least one receptacle in response to receiving the fault detect signal; and a mis-wire circuit coupled to the fault detection circuit, the mis-wire circuit including the mis-wiring sensor, the mis-wiring circuit causing the fault detection circuit to detect the at least one fault condition when an improper wiring condition is effected.

34. (original) The device according to claim 33, wherein the mis-wiring sensor is configured to open the mis-wire circuit when the mis-wiring sensor senses the proper wiring condition.

35. (original) The device according to claim 34, wherein the mis-wiring sensor includes at least one resistor.

36. (original) The device according to claim 35, wherein the proper wiring condition causes an amount of current to flow in the at least one resistor for at least a predetermined duration, such that the mis-wire circuit is opened and the protective shutter mechanism is moved from the locked position to the unlocked position.

37. (original) The device according to claim 36, wherein the proper wiring condition causes a current to flow for at least a predetermined duration, such that the resistor heats to a temperature greater than the melting point of solder, such that the mis-wire circuit is opened and the protective shutter is moved from the locked position to the unlocked position.

38. (original) The device according to claim 33, wherein the fault detection circuit includes a GFCI detection circuit.

39. (original) The device according to claim 33, wherein the fault detection circuit includes an AFCI detection circuit.

40. (original) The device according to claim 26, further comprising:

a fault detection circuit disposed on a circuit board, the fault detection circuit being configured to detect the at least one fault condition and provide a fault detect signal in response thereto, the mis-wiring sensor being disposed on the circuit board; and

interrupting contacts coupled to the fault detection circuit and disposed between the line terminals and the at least one receptacle, the interrupting contacts being configured to disconnect the power source from the at least one receptacle in response to receiving the fault detect signal.

41. (original) The device according to claim 40, further comprising:

at least one pivot arm removably coupled to the protective shutter mechanism in the locked position; and

a cam member coupled to the at least one pivot arm, the cam member being configured to rotate around an axis of rotation to thereby move the at least one

pivot arm in a linear direction to thereby move the protective shutter mechanism from the locked position to the unlocked position.

42. (original) The device according to claim 41, further comprising at least one spring member coupled to the protective shutter mechanism, the at least one spring member being configured to decouple the protective shutter mechanism from the at least one pivot arm when the pivot arm moves in the linear direction.

43. (original) The device according to claim 41, wherein the at least one pivot arm includes a first pivot arm coupled to the cam member and a second arm coupled to the cam member, the first pivot arm being removably coupled to a first protective shutter mechanism and the second pivot arm being removably coupled to a second protective shutter mechanism.

44. The device according to claim 41, further comprising:

a rotor coupled to the cam member at a first end, and coupled to the circuit board at a second end; and

a torsion spring assembly coupled to the rotor and the mis-wiring sensor, the torsion spring assembly being configured to release stored mechanical energy when the mis-wiring sensor senses the proper wiring condition, such that the rotor causes the cam member to rotate about the axis of rotation to thereby move the at least one pivot arm in the linear direction.

45. The device according to claim 44, wherein the mis-wiring sensor includes at least one resistor coupled to a portion of the torsion spring assembly by a solder connection.

46. The device according to claim 45, wherein the proper wiring condition causes a current to flow in the at least one resistor for at least a predetermined duration, such that the resistor heats to a temperature greater than the melting point of solder, such that the solder connection is broken, causing the torsion spring assembly to release the stored mechanical energy.

47 – 50. (Canceled)